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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/010,519

11/12/2001

Jack Hsieh

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12/16/2003

Richard P. Berg, Esq.
c/o LADAS & PARRY
Suite 2100
5670 Wilshire Boulevard
Los Angeles, CA 90036-5679

EXAMINER

NGUYEN, DUNG T

ART UNIT

PAPER NUMBER

2871

DATE MAILED: 12/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/010,519

Applicant(s)

HSIEH ET AL.

Examiner

Dung Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 September 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 2-5 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 6-16 is/are rejected.
- 7) ☒ Claim(s) 17 and 18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of claims 6-9 in Paper dated 09/02/2003 is acknowledged. The traversal is on the ground(s) that both species contain the "novel features as recite in claim 1" and it would not be an "undue burden". This is not found persuasive because the applicants has based the argument on his own definition of what constitutes an "undue burden" and not the definition provided in MPEP 808.01(a). It should also be noted that the generic claim 1 is not allowed yet (as shown below), so that the novel features of the applicant's invention have not defined yet.

The requirement is still deemed proper and is therefore made FINAL

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 10, it is confusing and unclear how the adjacent micro cell structures being connected by a passage. According to the specification and drawings (figures 7A-7N),

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only the adjacent pixels being connected by a passage. Correction to the language is suggested to clarify the claimed subject matter.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 6-9 are 11 –15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kishimoto et al., US 6,396,559, in view of Masazumi et al, US 6,331,884.

Regarding claims 1, 6-9 are 12 –13, Kishimoto et al. disclose a method of forming a liquid crystal display (LCD) as shown in figures 2A-2F comprising the step of forming a plurality of pixels (105) on a first substrate (101), a black matrix (102), a plurality of micro cell structures (polymer walls 6), a color filter (103), a first alignment layer (107) and combining the first substrate with a second substrate (120) having electrodes, data lines (figures 2F). Kishimoto et al. do not disclose the step of providing a liquid crystal utilizing ink-jet printing technology. Masazumi et al. do disclose a method of providing a liquid crystal by ink-jet printing technology (see figure 5). Therefore, it would have been obvious to one skilled in the art at the time of the invention was made to provide a liquid crystal layer utilizing ink-jet printing technology in order to prevent mixture of liquid crystal materials neighboring to each other (see summary of the invention).

Regarding claims 11 and 14-15, although the modification to the Kishimoto et al. do not disclose the step of using a thermal bubble type ink-jet printing technology as well as the step of

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forming a sealing member after or when injecting the liquid crystal into the micro cell structures. It would have been obvious to one skilled in the art to use a thermal bubble type ink-jet printing technology and/or preparing a sealing prior or after or during injecting liquid crystal material, since it is a common use in the art on the basis of its suitability for the intended use.

7. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kishimoto et al., US 6,396,559, in view of Masazumi et al, US 6,331,884, further in view of Koons et al., US 5,963,281.

Regarding claim 16, Kishimoto et al. do not disclose the step of forming a trench between the sealing member and the micro cell structures. Koons et al. do disclose a trench (12) can be formed between the seal (18) and the pixel cell (15) (see figure 1). Therefore, it would have been obvious to one skilled in the art to employ a trench as shown by Koons et al. in order to improve means for sealing an LCD device (col. 3, ln. 60).

Allowable Subject Matter

8. Claims 17-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung Nguyen whose telephone number is 703-305-0423. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on 703-305-3492. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

DN
12/01/03



Dung Nguyen
Patent Examiner
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